

**REMARKS**

Claims 1, 3-5, 7, 9-11, 16, 19, and 21 are pending in the application.

**Rejection under 35 U.S.C. 103(a)**

Claims 1, 3-5, 7, 9-11, 16, and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,700,648 to Hirooka et al (hereinafter "Hirooka").

It is well settled that to establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification does not have a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.* 18 USPQ 2d 1016, 1023 (Fed Cir, 1991), cert. denied 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496, (CCPA 1970).

The Applicants respectfully maintain their disagreement with the Examiners interpretation and extrapolation of the teachings of Hirooka. Hirooka fails to provide motivation to modify the disclosure of Hirooka to arrive at Applicants' transition metal compounds of amended independent Claims 1, 4, 5, 9, and 16. In particular, Hirooka fails to describe, teach or suggest a  $ML_aQ_b$  transition metal compound where L is a 2-, 3-, or 4- dentate chelatin ligand and Q is a mono-anionic or non-ionic ligand. The Examiner points to acetylacetone complexes containing chromium, iron, cobalt, and nickel as being species described in amended independent Claims 1, 4, 5, 9 and 16. However, acetylacetone is described in the Applicants' specification as 2- dentate chelatin species (L). Applicants submit that the species listed by the Examiner do not

contain Q moieties, and consequently, Hirooka fails to recommend any transition metal containing compounds as recited in amended independent Claims 1, 4, 5, 9 and 16.

Furthermore, Hirooka clearly states that it is necessary that the transition metal containing compound (b) to be mixed with (a), an organo-metallic halide, and the group (B) monomer; "it is necessary that the components (a) and (b) should be mixed with each other in the presence of at least the group (B) monomer," (emphasis added, See col 4, ln 28 – 34). Amended independent Claims 1 and 4 describe a process that does not require this limitation, and necessarily, describe a different process from the one taught by Hirooka. Hirooka fails to describe, teach or suggest a process in which the transition metal containing compound is mixed with either monomer prior to copolymerization. Accordingly, Applicants respectfully request reconsideration and withdrawal of the Examiner's rejections under 35 USC 103 over Hirooka.

Further, at most Hirooka discloses in principle the copolymerization of polar and nonpolar monomers. Hirooka broadly discloses, without much direction and specificity, a type of catalyst that can be used, namely a compound of a transition metal of Group IVa, Vla, or VIII which contains at least one member selected from the group consisting of a halogen atom and alkoxy, beta-diketö and acyloxy groups. This broad statement does not motivate one skilled in the art to arrive at the claimed invention (i.e.  $ML_aQ_b$ ). Hirooka's Examples mainly focus on the use of two polar monomers (as defined in the claims of the present invention), only Examples 7, 8, 9 and 17 suggestion the combination of polar and nonpolar monomers. And these Examples only teach polymerization in the presence of a catalyst on the basis of vanadium. Therefore, Applicants submit Hirooka only suggests and motivates one skilled in the art to use vanadium catalyst when polymerizing polar and nonpolar monomers. There is no suggestion, according to the Applicants to use the claimed transition metal compound, in fact Applicants submit such suggestion is only found in the present application.

Claims 3, 7, 10, 11, 19, and 21, either directly or indirectly, depend from and add further limitation to and are in condition for allowance for at least the same reason in connection with amended independent Claims 1, 4, 5, 9 and 16. Reconsideration is

respectfully requested.

**Rejection under 35 U.S.C. 103(a)**

Claims 5, 7, 9, 10, 16, and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,455,650 to Lipian et al (hereinafter "Lipian"). Applicants respectfully traverse this ground of rejection.

The Examiner alleges that Lipian discloses a method of polymerizing and copolymerizing cycloolefins using the transition metal complex and co-catalysts of the Applicants' invention. Therefore, the Examiner argues that one of ordinary skill in the art would be motivated to select the claimed components for the making of a polymerizable composition because Applicants have recommended a wide array of species within the claimed scope.

In contrast to amended independent Claims 5, 9, and 16 which are directed to compositions used for copolymerizing polar and non-polar monomers, Lipian describes a process for copolymerizing cycloolefins which are non-polar monomers. Lipian fails to provide disclosure, teaching or suggestions regarding polar cycloolefins, and therefore fails to describe, teach or suggest the copolymerization of polar and non-polar monomers as recited in amended independent Claims 5, 9, and 16. Applicant submits Lipian provides no suggestion, teaching or motivation or even general discussion regarding polymerizing polycycloolefins (which are nonpolar) with other polycycloolefins which may be polar due to pedant polar functional groups. Moreover, one skilled in the art would not look to the teachings of Lipian to develop a transition metal compound for use in reactions in which polar and non-polar monomers are copolymerized.

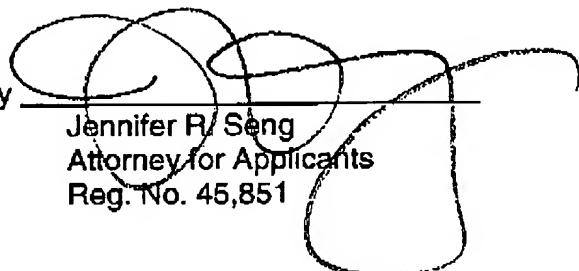
Furthermore, Lipian fails to describe a transition metal component of the structure claimed in amended independent Claims 5, 9, and 16. In particular, the bidentate transition metal compounds of Lipian contain a group 15 neutral electron donor ligand (L') and labile neutral electron donor ligand (L") and provides no motivation to remove either L' or L" to arrive at the transition metal compounds of amended independent Claims 5, 9 and 16. Accordingly, Lipian fails to render obvious amended

independent Claims 5, 9, and 16 and reconsideration of the rejections under 35 USC 103(a) is respectfully requested.

Claims 7, 10, and 19 either directly or indirectly depend from, add further limitation to and are in condition for allowance for at least the same reasons in connection with amended independent Claims 5, 9 and 16. Reconsideration is respectfully requested.

In view of the above amendments, Applicants submit that the claims are in condition for allowance and the Examiner would be justified in allowing them

Respectfully submitted,

By   
Jennifer R. Seng  
Attorney for Applicants  
Reg. No. 45,851

LANXESS Corporation  
Law & Intellectual Property Department  
111 RIDC Park West Drive  
Pittsburgh, Pennsylvania 15275-1112  
(412) 809-2233  
FACSIMILE PHONE NUMBER:  
(412) 809-1054

\sr\S:\Law Shared\SHARED\JRS\PATENTS\6856\6856 Amdt 11-28-06.DOC

-10-

Mo-6856